

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/583,466  
Source: IFWP  
Date Processed by STIC: 3/26/07

# ENTERED



IFWP

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/583,466

DATE: 03/26/2007

TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt  
 Output Set: N:\CRF4\03262007\J583466.raw

3 <110> APPLICANT: Stephen J. Anderson, et al.  
 5 <120> TITLE OF INVENTION: Novel Gene Disruptions, Compositions and Methods  
 6 Relating Thereto  
 8 <130> FILE REFERENCE: P5201R1  
 10 <140> CURRENT APPLICATION NUMBER: US 10/583,466  
 11 <141> CURRENT FILING DATE: 2006-06-15  
 13 <150> PRIOR APPLICATION NUMBER: PCT/US2004/041721  
 14 <151> PRIOR FILING DATE: 2004-12-13  
 16 <150> PRIOR APPLICATION NUMBER: US 60/530,043  
 17 <151> PRIOR FILING DATE: 2003-12-16  
*Ref R.6*  
 19 <160> NUMBER OF SEQ ID NOS: 70  
 21 <210> SEQ ID NO: 1  
 22 <211> LENGTH: 1210  
 23 <212> TYPE: DNA  
 24 <213> ORGANISM: Homo sapiens  
 26 <400> SEQUENCE: 1  
 27 cagcgcgtgg ccggcgccgc tgggggaca gcatgagcgg cgggtggatg 50  
 29 ggcgcaggttt gggctggcg aacaggggct ctgggcctgg cgctgctgct 100  
 31 gctgctcggc ctcggactag gcctggagc cggccgcgagc cggctttcca 150  
 33 ccccgaccc tcggccaggcc gcaggccccca gctcaggctc gtgcccaccc 200  
 35 accaagttcc agtgccgcac cagtggctta tgcgtgcccc tcacctggcg 250  
 37 ctgcgacagg gacttggact gcagcgatgg cagcgatgag gaggagtgca 300  
 39 ggattgagcc atgtacccag aaaggccaat gcccaccgc ccctggcctc 350  
 41 ccctgccccct gcaccggcgt cagtactgc tctggggaa ctgacaagaa 400  
 43 actgcgcac acgtggccgc tggcctgcct agcaggcgag ctccgttgca 450  
 45 cgctgagcga tgactgcatt ccactcacgt ggcgcgtgcga cggccaccca 500  
 47 gactgtcccg actccagcga cgagctcgcc tggtaacca atgagatcct 550  
 49 cccggaaagg gatgccacaa ccatggggcc ccctgtgacc ctggagatg 600  
 51 tcacctctct caggaatgcc acaaccatgg ggccccctgt gaccctggag 650  
 53 agtgtccct ctgtcggaa tgccacatcc tcctctgcgg gagaccatgc 700  
 55 tggaaaggcca actgcctatg gggatttattgc agctgctgcg gtgctcaatg 750  
 57 caaggctggt caccggcacc tcctctctt tggctggct ccggagccag 800  
 59 gagcgcctcc gcccactggg gttactggg gccatgaagg agtccctgct 850  
 61 gctgtcaga cagaagaccc ctgcgtccctg aggacaagca cttgcccacca 900  
 63 ccgtcaactca gcccggccgc tagccggaca ggaggagagc agtgcgtcgg 950  
 65 atgggtaccc gggcacacca gcccactcagag acctgagttc ttctggccac 1000  
 67 gtggaaacctc gaacccgagc tcctgcagaa gtggccctgg agattgaggg 1050  
 69 tccctggaca ctccctatgg agatccgggg agcttagatg gggAACCTGC 1100  
 71 cacagccaga actgaggggc tggccccagg cagctcccag ggggttagaac 1150  
 73 ggccctgtgc ttaagacact ccctgctgcc ccgtctgagg gtggcgattta 1200  
 75 aagttgcttc 1210  
 77 <210> SEQ ID NO: 2  
 78 <211> LENGTH: 282

## RAW SEQUENCE LISTING

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Input Set : F:\P5201R1 Sequence Listing.txt  
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79 <212> TYPE: PRT
80 <213> ORGANISM: Homo sapiens
82 <400> SEQUENCE: 2
83 Met Ser Gly Gly Trp Met Ala Gln Val Gly Ala Trp Arg Thr Gly
84      1           5           10          15
86 Ala Leu Gly Leu Ala Leu Leu Leu Leu Gly Leu Gly Leu Gly
87           20          25          30
89 Leu Glu Ala Ala Ala Ser Pro Leu Ser Thr Pro Thr Ser Ala Gln
90           35          40          45
92 Ala Ala Gly Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln
93           50          55          60
95 Cys Arg Thr Ser Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp
96           65          70          75
98 Arg Asp Leu Asp Cys Ser Asp Gly Ser Asp Glu Glu Glu Cys Arg
99           80          85          90
101 Ile Glu Pro Cys Thr Gln Lys Gly Gln Cys Pro Pro Pro Pro Gly
102           95         100         105
104 Leu Pro Cys Pro Cys Thr Gly Val Ser Asp Cys Ser Gly Gly Thr
105           110        115         120
107 Asp Lys Lys Leu Arg Asn Cys Ser Arg Leu Ala Cys Leu Ala Gly
108           125        130         135
110 Glu Leu Arg Cys Thr Leu Ser Asp Asp Cys Ile Pro Leu Thr Trp
111           140        145         150
113 Arg Cys Asp Gly His Pro Asp Cys Pro Asp Ser Ser Asp Glu Leu
114           155        160         165
116 Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly Asp Ala Thr Thr
117           170        175         180
119 Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser Leu Arg Asn
120           185        190         195
122 Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Pro Ser
123           200        205         210
125 Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly Ser
126           215        220         225
128 Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Val Leu Ser Ala
129           230        235         240
131 Ser Leu Val Thr Ala Thr Leu Leu Leu Ser Trp Leu Arg Ala
132           245        250         255
134 Gln Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu
135           260        265         270
137 Ser Leu Leu Leu Ser Glu Gln Lys Thr Ser Leu Pro
138           275        280
140 <210> SEQ ID NO: 3
141 <211> LENGTH: 1867
142 <212> TYPE: DNA
143 <213> ORGANISM: Homo sapiens
145 <400> SEQUENCE: 3
146 acactggcca aacactcgca tcccaggcgctg ctccattga 50
148 gctgtctgct cgctgtgcgc gctgtgcctg ctgtgcgcgc gctgtgcgcgc 100
150 ctgctaccgc gtctgctgga cgcgaggagac gccagcgagc tggtgattgg 150

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Input Set : F:\P5201R1 Sequence Listing.txt

Output Set: N:\CRF4\03262007\J583466.raw

152 agccctgcgg agagctcaag cgcccagctc tgccc gagga gcccaggctg 200  
 154 ccccgtagt cccatagtt ctgcaggagt ggagccttc cctttgcgt 250  
 156 cgctaaacca ccatgagctg cgtcctgggt ggtgtcatcc ccttgggct 300  
 158 gctgttcctg gtctcggt cccaaggcta cctcctgccc aacgtcactc 350  
 160 tcttagagga gctgctcagc aaataccagc aacaacgagtc tcactcccgg 400  
 162 gtccgcagag ccataccccag ggaggacaag gaggagatcc tcattgtcga 450  
 164 caacaagctt cggggccagg tgcaagctca ggcctccaac atggagtaca 500  
 166 tgacaccttga tgacgaactg gagaagtctg ctgcagcgtg ggccagtcag 550  
 168 tgcattctggg agcacgggcc caccagctg ctgtgttcca tcggggcagaa 600  
 170 cctgggcgtt cactggggca ggtatcgctc tccgggttc catgtgcagt 650  
 172 cctggatatacg cgggtgaag gactacaccc accccttaccc gagcgaatgc 700  
 174 aacccttgtt gtccagagag gtgctcgaaa cctatgtcga cgcactacac 750  
 176 acagatagtt tggccacca ccaacaagat cgggtgtgt gtgaacacac 800  
 178 gccggaagat gactgtctgg ggagaagttt gggagaacgc ggtctacttt 850  
 180 gtctgcaatt attctccaaa ggggaacttg attggagaag ccccttacaa 900  
 182 gaatggccgg ccctgctctg agtgcaccacc cagctatggg ggcagctcga 950  
 184 ggaacaactt gtgttaccga gaagaaacct acactccaaa acctgaaacg 1000  
 186 gacgagatga atgaggtgga aacggctccc attcctgaag aaaaccatgt 1050  
 188 ttggctccaa ccgagggtga tgagaccac caagcccaag aaaacctctg 1100  
 190 cggtaacta catgacccaa gtcgtcagat gtgacaccaa gatgaaggac 1150  
 192 aggtgcaaaag ggtccacgtg taacaggtac cagtgcacccag caggctgcct 1200  
 194 gaaccacaag gcgaagatct ttggaaagtct gttctatgaa agctcgctca 1250  
 196 gcatatgcgc cgccgcacatc cactacgggta tcctggatga caaggaggc 1300  
 198 ctggtgata tcaccaggaa cgggaaggtc cccttcttcg tgaagtctga 1350  
 200 gagacacggc gtgcagtcctc tcagcaaata caaaccttcc agctcattca 1400  
 202 tggtgtcaaa agtggaaagtg caggatttg actgctacac gaccgttgct 1450  
 204 cagctgtgcc cggtgaaaaa gccagcaact cactgcacccaa gaatccattg 1500  
 206 tccggcacac tgcaaagacg aaccttccta ctgggctccg gtgtttggaa 1550  
 208 ccaacatcta tgcaagatacc tcaagcatct gcaagacagc tgtgcacgcg 1600  
 210 ggagtcatca gcaacgagag tgggggtgac gtggacgtga tgcccgtgga 1650  
 212 taaaaagaag acctacgtgg gctcgctcag gaatggagtt cagtctgaaa 1700  
 214 gcctgggac tcctcggtt gggaaaggct tccggatctt tgctgtcagg 1750  
 216 catttccctt tgccggcccg tgaatttcca gcaccagggg agaaggggcg 1800  
 218 tcttcaggag ggcttcgggg ttttgccttt atttttatgg tgcattgcg 1850  
 220 gggtatatgg agagtca 1867  
 222 <210> SEQ ID NO: 4  
 223 <211> LENGTH: 497  
 224 <212> TYPE: PRT  
 225 <213> ORGANISM: Homo sapiens  
 227 <400> SEQUENCE: 4  
 228 Met Ser Cys Val Leu Gly Gly Val Ile Pro Leu Gly Leu Leu Phe  
 229       1               5               10               15  
 231 Leu Val Cys Gly Ser Gln Gly Tyr Leu Leu Pro Asn Val Thr Leu  
 232       20               25               30  
 234 Leu Glu Glu Leu Leu Ser Lys Tyr Gln His Asn Glu Ser His Ser  
 235       35               40               45  
 237 Arg Val Arg Arg Ala Ile Pro Arg Glu Asp Lys Glu Glu Ile Leu  
 238       50               55               60  
 240 Met Leu His Asn Lys Leu Arg Gly Gln Val Gln Pro Gln Ala Ser

RAW SEQUENCE LISTING DATE: 03/26/2007  
 PATENT APPLICATION: US/10/583,466 TIME: 11:21:10

Input Set : F:\P5201R1 Sequence Listing.txt  
 Output Set: N:\CRF4\03262007\J583466.raw

241		65	70	75
243	Asn Met Glu Tyr Met	Thr Trp Asp Asp	Glu Leu Glu Lys Ser Ala	
244	80		85	90
246	Ala Ala Trp Ala Ser Gln Cys Ile Trp	Glu His Gly Pro Thr Ser		
247	95		100	105
249	Leu Leu Val Ser Ile Gly Gln Asn Leu	Gly Ala His Trp Gly Arg		
250	110		115	120
252	Tyr Arg Ser Pro Gly Phe His Val Gln	Ser Trp Tyr Asp Glu Val		
253	125		130	135
255	Lys Asp Tyr Thr Tyr Pro Tyr Pro Ser	Glu Cys Asn Pro Trp Cys		
256	140		145	150
258	Pro Glu Arg Cys Ser Gly Pro Met Cys	Thr His Tyr Thr Gln Ile		
259	155		160	165
261	Val Trp Ala Thr Thr Asn Lys Ile Gly	Cys Ala Val Asn Thr Cys		
262	170		175	180
264	Arg Lys Met Thr Val Trp Gly Glu Val	Trp Glu Asn Ala Val Tyr		
265	185		190	195
267	Phe Val Cys Asn Tyr Ser Pro Lys Gly	Asn Trp Ile Gly Glu Ala		
268	200		205	210
270	Pro Tyr Lys Asn Gly Arg Pro Cys Ser	Glu Cys Pro Pro Ser Tyr		
271	215		220	225
273	Gly Gly Ser Cys Arg Asn Asn Leu Cys	Tyr Arg Glu Glu Thr Tyr		
274	230		235	240
276	Thr Pro Lys Pro Glu Thr Asp Glu Met	Asn Glu Val Glu Thr Ala		
277	245		250	255
279	Pro Ile Pro Glu Glu Asn His Val Trp	Leu Gln Pro Arg Val Met		
280	260		265	270
282	Arg Pro Thr Lys Pro Lys Lys Thr Ser	Ala Val Asn Tyr Met Thr		
283	275		280	285
285	Gln Val Val Arg Cys Asp Thr Lys Met	Lys Asp Arg Cys Lys Gly		
286	290		295	300
288	Ser Thr Cys Asn Arg Tyr Gln Cys Pro	Ala Gly Cys Leu Asn His		
289	305		310	315
291	Lys Ala Lys Ile Phe Gly Ser Leu Phe	Tyr Glu Ser Ser Ser Ser		
292	320		325	330
294	Ile Cys Arg Ala Ala Ile His Tyr Gly	Ile Leu Asp Asp Lys Gly		
295	335		340	345
297	Gly Leu Val Asp Ile Thr Arg Asn Gly	Lys Val Pro Phe Phe Val		
298	350		355	360
300	Lys Ser Glu Arg His Gly Val Gln Ser	Leu Ser Lys Tyr Lys Pro		
301	365		370	375
303	Ser Ser Ser Phe Met Val Ser Lys Val	Lys Val Gln Asp Leu Asp		
304	380		385	390
306	Cys Tyr Thr Thr Val Ala Gln Leu Cys	Pro Phe Glu Lys Pro Ala		
307	395		400	405
309	Thr His Cys Pro Arg Ile His Cys Pro	Ala His Cys Lys Asp Glu		
310	410		415	420
312	Pro Ser Tyr Trp Ala Pro Val Phe Gly	Thr Asn Ile Tyr Ala Asp		
313	425		430	435

## **RAW SEQUENCE LISTING**

PATENT APPLICATION: US/10/583,466

DATE: 03/26/2007

TIME: 11:21:10

Input Set : F:\P5201R1\_Sequence\_Listing.txt  
Output Set: N:\CRF4\03262007\J583466.raw

315 Thr Ser Ser Ile Cys Lys Thr Ala Val His Ala Gly Val Ile Ser  
 316 440 445 450  
 318 Asn Glu Ser Gly Gly Asp Val Asp Val Met Pro Val Asp Lys Lys  
 319 455 460 465  
 321 Lys Thr Tyr Val Gly Ser Leu Arg Asn Gly Val Gln Ser Glu Ser  
 322 470 475 480  
 324 Leu Gly Thr Pro Arg Asp Gly Lys Ala Phe Arg Ile Phe Ala Val  
 325 485 490 495  
 327 Arg Gln  
 330 <210> SEQ ID NO: 5  
 331 <211> LENGTH: 2359  
 332 <212> TYPE: DNA  
 333 <213> ORGANISM: Homo sapiens  
 335 <400> SEQUENCE: 5  
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 338 tgctggcctg gcctggatct tccaccatgt tcctgttgc gccttttgat 100  
 340 agcctgattt tcaaccttct gggcatctcc ctgactgtcc tcttcaccct 150  
 342 ccttctcggtt ttcatcatag tgccagccat ttttggagtc tcctttggta 200  
 344 tccgc当地 act ctacatgaaa agtctgttaa aaatcttgc gtgggctacc 250  
 346 ttgagaatgg agcgaggagc caaggagaag aaccaccagc ttacaagcc 300  
 348 ctacaccaac ggaatcattt caaaggatcc cacttacta gaagaagaga 350  
 350 tcaaagagat tcgtcgaagt ggttagtagta aggctctgga caacactcca 400  
 352 gagttcgagc tctctgacat tttctacttt tgccggaaag gaatggagac 450  
 354 cattatggat gatgagggtga caaagagatt ctcagcagaa gaactggagt 500  
 356 cctggAACCT gctgagcaga accaattata acttcccgta catcagcctt 550  
 358 cggctcacgg tcctgtgggg gtttaggatgt ctgattcggt actgcttct 600  
 360 gctgccgctc aggatagcac tggcttac agggattagc cttctgggg 650  
 362 tgggcacaac tgggtggga tacttgccaa atgggaggtt taaggaattc 700  
 364 atgagtaaac atgttcaattt aatgtgttac cggatctgcg tgcagcgt 750  
 366 gacagccatc atcacctacc atgacagggaa aaacagacca agaaatgtg 800  
 368 gcatctgtgtt ggc当地 atc acctcaccga tcgatgtgat catcttgcc 850  
 370 agcgatggctt attatgccat ggtgggtcaa gtgcacgggg gactcatggg 900  
 372 tgtgattcag agagccatgg tgaaggcctt cccacacgtc tgggttgagc 950  
 374 gctcggaaatg gaaggatcgc cacctgggtt ctaagagact gactgaacat 1000  
 376 gtc当地 agataaa aagcaagct gcctatcctc atcttcccag aaggaacctg 1050  
 378 catcaataat acatcggtga tggatgttcaa aaagggaaatg tttgaaattt 1100  
 380 gagccacagt ttaccctgtt gctatcaatg atgaccctca atttggcgat 1150  
 382 gccttctgga acagcagcaa atacgggtt gtc当地 gtaatc tgctgc当地 1200  
 384 gatgaccagc tggccattt tctgcagcgt gtggtacctg cctccatg 1250  
 386 ctagagaggc agatgaagat gctgtccagg ttgcaatag ggtgaaatct 1300  
 388 gccattgcca ggcaggaggagg acttgggtt gtc当地 gtaatc atggggcc 1350  
 390 gaagagggagg aaggtaagg acacgttcaa ggaggagcag cagaagctgt 1400  
 392 acagcaagat gatcgtgggg aaccacaagg acaggagccg ctcctgagcc 1450  
 394 tgc当地 ccaggc tggctggggc caccgtgccc ggtgcaacg ggctcagagc 1500  
 396 tggagttgcc gccgc当地 ccaactgtgt gtc当地 ttccca gactccagg 1550  
 398 ctccccgggc tgc当地 tggat cccaggactc cggcttgcg cgagccgcag 1600  
 400 cgggatccct gtc当地 cccaggactc cggcttgcg ctaaaacggat 1650  
 402 gtc当地 tgggtt gttgcaaccc aggacgagat gccttgc当地 ttttacaata 1700  
 404 agtcgttggg ggaatgccc taaagtgaac tccccaccc tgc当地 cgtgt 1750

RAW SEQUENCE LISTING ERROR SUMMARY                   DATE: 03/26/2007  
PATENT APPLICATION: US/10/583,466                   TIME: 11:21:11

*FYI*  
Input Set : F:\P5201R1 Sequence Listing.txt  
Output Set: N:\CRF4\03262007\J583466.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:9; N Pos. 911

VERIFICATION SUMMARY  
PATENT APPLICATION: US/10/583,466

DATE: 03/26/2007  
TIME: 11:21:11

Input Set : F:\P5201R1 Sequence Listing.txt  
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L:907 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 after pos.:900